



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/696,866	10/25/2000	Kazim Seven	50019.28US01	1795

23552 7590 05/17/2006

MERCHANT & GOULD PC  
P.O. BOX 2903  
MINNEAPOLIS, MN 55402-0903

EXAMINER
----------

LAO, LUN S

ART UNIT	PAPER NUMBER
----------	--------------

2615

DATE MAILED: 05/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/696,866	<b>Applicant(s)</b> SEVEN, KAZIM	
	<b>Examiner</b> Lun-See Lao	<b>Art Unit</b> 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 and 6-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### *Introduction*

1. This action is in response to the amendment filed on 02-21-2006. claims 1-3 have been amended and claim 5 has been canceled. Claims 1-11 are pending.

### ***Specification***

2. The amendment filed on 02-21-2006 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "a switch that is arranged to: couple the first output to an input of the second amplifier when in a closed position and disconnect the first output from the input-of the second amplifier when in an open position wherein the switch is selectively controlled by the control circuit such that switch is closed when the selected arrangement of the amplifiers is the first configuration and the switch is open when the selected arrangement is the second configuration" (see specification page 5 lines 1-27 and figs 2-4 and 8A) was not supported in the further detail in the specification nor in any of the claim.

Applicant is required to cancel the new matter in the reply to this Office Action.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

Art Unit: 2615

art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claim limitation “ a switch that is arranged to: couple the first output to an input of the second amplifier when in a closed position and disconnect the first output from the input-of the second amplifier when in an open position wherein the switch is selectively controlled by the control circuit such that switch is closed when the selected arrangement of the amplifiers is the first configuration and the switch is open when the selected arrangement is the second configuration” (see specification page 5 lines 1-27 and figs 2-4 and 8A) was not supported in the further detail in the original disclosure.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-7, 9 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Dunnebacke (US PAT. 5,729,174).

Consider claim 1, Dunnebacke teaches that an apparatus for automatically determining a type of each load coupled to an amplified A channel (see fig.1, 13,14) signal and an amplified B channel (15,16) signal and automatically configuring the amplification of the A and B channel signals (13-16) to drive each determined load type (11, 12), comprising:

(a) a first configuration (such as, first configuration mode) of amplifiers, a first amplifier (2) and a second amplifier (3) are arranged to generate an amplified A channel signal (13,14) between a first output of the first amplifier (2) and a second output of the second amplifier (3), wherein the first and second outputs are adapted for driving a load of a first type (11) coupled there between, and a third amplifier (4) and a fourth amplifier (5) are arranged to generate an amplified B channel signal (15,16) between a third output of the third amplifier(4) and a fourth output of the fourth amplifier (5), wherein the third and fourth outputs are adapted for driving another load of the first type (11) coupled there between (see col. 4line 30-col. 5 line 7);

(b) a second configuration (such as, second configuration mode) of the amplifiers, the first and second amplifiers (2,3) are arranged to generate the amplified A channel signal between the first and second outputs, wherein the first and second outputs are adapted for driving a load of a second type (12) coupled there between, and the second amplifier (3) and the third amplifier (4) are arranged to generate the amplifier B channel signal (15,16) between the second output and the third output, wherein the second and third outputs are adapted for driving another load of the second type (12) coupled there between (see col. 4 line 30-col. 5 line 24); and

Art Unit: 2615

(c) a control circuit (26-28) that automatically determines the type of loads coupled to the amplified A and B channel signals (13-16) and automatically employs the determined load type to select an arrangement of the amplifiers in one of the first configuration (such as, first configuration mode) and the second configuration (such as, second configuration mode), wherein the selected arrangement of amplifiers provides an appropriate level for the amplified A and B channel signals (13-16) to drive their respective loads (see col. 5 line 5-col. 6 line 12).

Consider claims 2-3, Dunnebacke teaches that a first mechanical switch (see fig. 1, 10) that couples one of the first and second outputs (14,15) to the load of the first type when in a closed position, and disconnects the one of the first and second outputs (14,15) from the load of the first type when in an open position, wherein the control circuit automatically determines the type of load to be of the first type when the first switch mechanical (10) is detected as closed and of the second type when the first mechanical switch is detected as open (see col. 4 line 60-col. 6 line 12); and a second mechanical switch (8) that couples the third output (from amplifier 4) to an input of the control circuit (28) when in a closed position, and disconnects the third output from the input of the control circuit (28) when in an open position, wherein the control circuit (28) detects the type of load by detecting the disposition of the second mechanical switch as the open position or the closed position (9 and see col. 4 line 30-col. 6 line 12).

Consider claims 4-5, Dunnebacke teaches that the fourth amplifier (see fig.1, 4) includes a tri-state input that is coupled to the control circuit (28) such that the fourth amplifier is enabled when the selected arrangement of the amplifiers in the first

Art Unit: 2615

configuration (such as, first configuration mode), and the fourth amplifier is disabled when the selected arrangement is the second configuration (such as, second configuration mode and see col. Col.4 line 60-col. 6 line 12); and a third switch (9) that couples the first output to an input of the second amplifier (3) when in a closed position, and disconnects the first output from the input of the second amplifier when in an open position, the first switch is controlled by the control circuit such that the third switch is closed when the selected arrangement of the amplifiers in the first configuration (such as, first configuration mode), and the third switch (9) is open when the selected arrangement is the second configuration (such as, second configuration mode and see col. 4 line 30-col. 6 line 12).

Consider claims 6-7, Dunnebacke teaches that the first amplifier (see fig.1, 2) and the second amplifier (3) are configured as a bridge amplifier such that the first output and second output provide an A channel differential output (13,14), and the third amplifier (4) and the fourth amplifier (5) are configured as another bridge amplifier such that the third output and the fourth output provide a B channel differential output (15,16), when the selected arrangement is the first configuration (such as, first configuration mode and see col. 4 line 30-col. 5 line 24); and the second output of the second amplifier (3) provides a virtual ground, the first output of the first amplifier (2) provides an A channel differential output (13,14), and the third amplifier and the fourth amplifier (4,5) are configured as another bridge amplifier such that third output of the third amplifier provides a B channel differential output (15,16), when the selected

Art Unit: 2615

arrangement is the first configuration (such as, first configuration mode and see col. 4 line 30-col. 5 line 24 ).

Consider claim 9 and 11, Dunnebacke teaches that the first, second, and the third amplifiers inherently include a controllable current limited output that is enabled in the selected arrangement is the second configuration (see col. 4 line 31-col. 5 line 24); and the control circuit (see fig.1, (26-28)) further comprises a short circuit detector, the short circuit detector determines that a short circuit condition exists when the second output is maintained below the reference voltage for a predetermined time interval, and the control circuit inherently (because, switch 9 and 10 are circuit breakers) disables the second amplifier (3) when the short circuit condition exists (see col. 4 line 3-col. 5 line 16).

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dunnebacke (US PAT. 5,729,174) in view of Mizukami (US PAT. 6,069,960).

Consider claim 8, Dunnebacke fails to teaches that the control circuit is adapted for detecting a disposition of a jack having a mechanical switch, the mechanical switch



Art Unit: 2615

being disposed in a closed position unless a plug is inserted therein, and the mechanical switch being in an open position when a plug is inserted therein such that the control circuit determines the disposition of the jack by monitoring the disposition of the mechanical switch.

However, Mizukami teaches that the control circuit (see fig.2, (8)) is adapted for detecting a disposition of a jack (J) having a mechanical switch, the mechanical switch being disposed in a closed position unless a plug (P-H) is inserted therein, and the mechanical switch being in an open position when a plug is inserted therein such that the control circuit (8) determines the disposition of the jack (J) by monitoring the disposition of the mechanical switch (see figs.2, 3a-3e and col. 3 line 35-col.5 line 12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Mizukami into Dunnebacke to provide a connector device for connecting, to a first information-handling apparatus, a plurality of second information-handling apparatuses having different impedances by connectors comprising jacks and plugs, the connector device allowing the first information-handling apparatus to have a reduced space for accommodating the connectors and provide a choice to the user for outputting the audio signal from a speaker or a headphone.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dunnebacke (US PAT. 5,729,174) in view of Kusakabe (US PAT. 6,107,886).

Consider claim 10, Dunnebacke does not clearly teach that apparatus of each of the controllable current limited outputs of the first, second, and third amplifiers includes an output transistor that generates an output current in response to a drive signal, and a controlled clamp that is arranged to clamp the drive signal when the selected arrangement is the second configuration.

However, Kusakabe teaches that apparatus of each of the controllable current limited outputs of the first, second, and third amplifiers (see fig.1, (N1, N2, N3)) includes an output transistor (AQ11-12, AQ21-22 and BQ31-32) that generates an output current in response to a drive signal, and a controlled clamp (such as, threshold) that is arranged to clamp the drive signal when the selected arrangement is the second configuration (see col. 4 line 22-col. 5 line46).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Mizukami into Dunnebacke to provide a power amplifier capable of amplifier signal on plural channels at a high efficiency with less heat generation.

### ***Response to Arguments***

10. Applicant's arguments with respect to claims 1-4 and 6-11 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

Art Unit: 2615

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kokubo (US PAT. 5,920,229) is cited to show other related the output coupling capacitor free audio power amplifier dynamically configured for speakers and headphone with excellent click and pop performance.

13. Any response to this action should be mailed to:

Mail Stop \_\_\_\_ (explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Facsimile responses should be faxed to:  
**(703) 872-9306**

Hand-delivered responses should be brought to:  
Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (571) 272-7501. The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian, can be reached on (571) 272-7848.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Application/Control Number: 09/696,866

Page 11

Art Unit: 2615

Lao, Lun-See *L.S.*

Patent Examiner

US Patent and Trademark Office

Knox

571-272-7501

Date 05-05-2006



VIVIAN CHIN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600